



Operating & Maintenance MANUAL





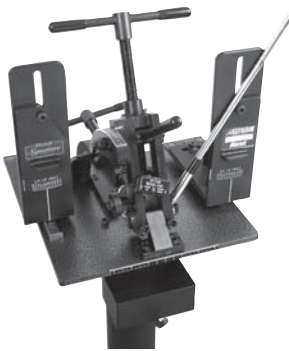
U.S. Patent No. 4,620,431



"Thank You for purchasing the golf industry's state-of-the-art STEELCLUB Signature Angle Machine. You should find it simple to operate. Please follow the instructions in this manual. Be sure to mount the stand into the floor and attach the machine before attempting to use it. If you have any questions, please call 1.800.437.1314."

- Ed Mitchell

IMPORTANT NOTICE



Your **STEELCLUB** Signature Angle Machine is a precision gauge.

When measuring a particular golf club in your **STEELCLUB** Signature Angle Machine, the angle readings are correct. When these angle readings are compared to the published standards for that club and are found to be different, then that particular club does not meet those standards.

If you compare the loft/lie angles of a particular iron measured in other machines to a **STEELCLUB** Signature Angle Machine, there may be a difference. That is because some machines do not adjust for offset, progressive offset, non-offset, or face progression hosel positions and therefore give inaccurate and inconsistent readings. You can measure any iron in a **STEELCLUB** Signature Angle Machine accurately.

Metal wood and hybrid face and lie angles are measured accurately in the **STEELCLUB** Signature Angle Machine. Other measuring devices give inaccurate and inconsistent face angle measurements because they clamp the shaft instead of registering the club head. This allows the club head to be rotated to any face angle position by the operator when attempting to measure. The **STEELCLUB** Signature Angle Machine properly registers the club head in a centered square horizontal face plane, and then measures the shaft plane to the square face. The results are accurate and consistent face angle readings.

"THE INDUSTRY STANDARD FOR ACCURACY™"

GUARANTEE

All products manufactured by Mitchell Golf Equipment Company are guaranteed against defects and workmanship. Replacement or repair will be at the discretion of Mitchell Golf Equipment Company.

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This **STEELCLUB** Signature Angle Machine
Was Manufactured For:

Purchased by: _____ Date: _____

Serial Number # _____



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MAINTENANCE

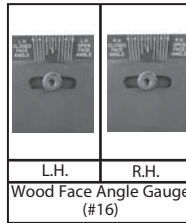
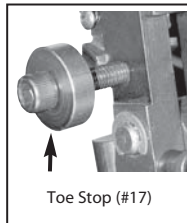
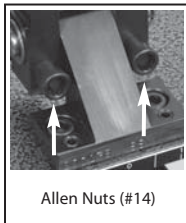
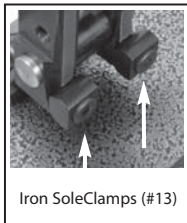
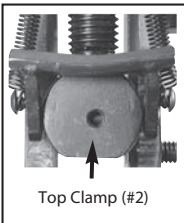
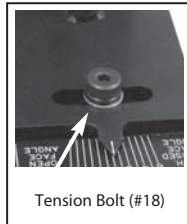
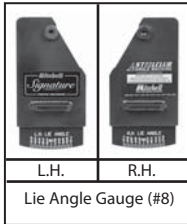
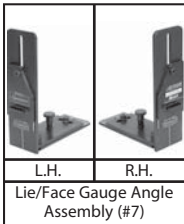
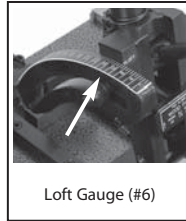
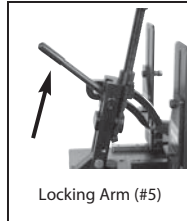
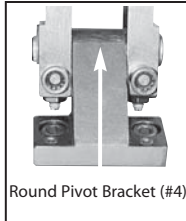
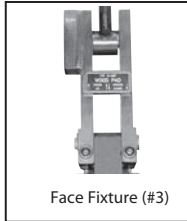
STEELCLUB Signature Angle Machine

1. Clean occasionally with WD-40 to prevent corrosive build up.
2. Face Tape: As needed, clean off old tape on backside of **Face Fixture** (#3) and replace with two new pieces of tape, cut approximately 2 1/2" long from the roll. Peel the back off the tape and place on the backside of **Face Fixture** (#3), directly above the **Iron Sole Clamps** (#13). Make sure tape is pressed on evenly by rubbing with a hard object, such as a coin.
3. Keep a small amount of Vaseline or grease on the bottom end of the **Top Worm Screw** (#1) where it makes contact with top clamp (#2).

TECHNICAL ASSISTANCE

Call 1-800-437-1314 Monday – Friday 8:00 a.m.- 5:00 p.m. Eastern Time
 EMAIL: info@mitchellgolf.com

PARTS



OPERATING INSTRUCTIONS - IRONS



Illustration 1 –



Illustration 2 –



Illustration 3 –



Illustration 4 –

Club Head Registration & Clamping

STEP 1 Loosen the **Top Worm Screw** (#1) that adjusts **Top Clamp** (#2) that holds the iron head.

NOTE: Make sure the **Top Clamp Wood Pad** (#11) is up when clamping irons.

STEP 2 Insert club head into back of **Face Fixture** (#3), setting the club sole on the two **Iron Sole Clamps** (#13) and the toe of the club touching the **Toe Stop** (#17). Adjust club head so the score lines are parallel to the leading edge of the **Round Pivot Bracket** (#4) that is in between the **Face Fixture** (#3) by adjusting the **Toe Stop** (#17) inward or outward. Then tighten the **Top Worm Screw** (#1). See Illustrations 1 thru 3.

STEP 3 **WHEN NECESSARY**, place the **Back Iron Clamp** (#19) in the center hole on the **Back Worm Screw** (#10) slidable clamp fixture. Preset desired loft of iron, then register club head & lightly tighten the **Top Worm Screw** (#1). Tighten **Back Worm Screw** (#10) until **Back Iron Clamp** (#19) is snug against iron head. Make sure club head is flush against the back of the **Face Fixture** (#3) then fully tighten the **Top Worm Screw** (#1). See Illustration 4.

NOTE: Use the **Back Iron Clamp** (#19) only when the club face does not clamp flush against the **Face Fixture** (#3) or when the club head slips when bending. These conditions are caused by the sole design on only a few models of clubs.

Do not use the Back Iron Clamp (#19) on every iron. It will slow down your bending time and is not necessary to use on every club.

OPERATING INSTRUCTIONS - IRONS



Illustration 5 –

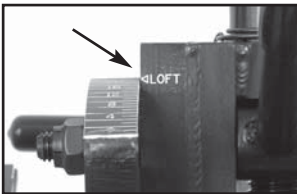


Illustration 6 –

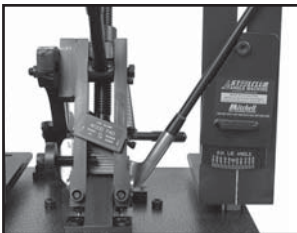


Illustration 7 –

Measuring Loft/Lie Angles

STEP 1 Pull down **Locking Arm** (#5) and both the club and the **Face Fixture** (#3) will swing forward and backwards in the **Loft Gauge Swing Arm** (#6).

STEP 2 Pull club forward, then slide the **R.H. Lie/Face Angle Gauge Assembly** (#7) forward. Push club backwards until the shaft is flush against the **Vertical Plate** (#20). The **R.H. Lie/Face Angle Gauge Assembly** (#7) will slide back as you push the club shaft against it. Lock the **Face Fixture** (#3) against the **Loft Gauge Swing Arm** (#6) by pushing up the **Locking Arm** (#5). See Illustration 5.

STEP 3 Read loft directly off the front left hand side of **Face Fixture** (#3), where it is locked against the **Loft Gauge Swing Arm** (#6). Note the "LOFT" stamped into the **Face Fixture** (#3). See Illustration 6.

STEP 4 To measure lie angle slide the **R.H. Lie Angle Gauge** (#8) up against the shaft to read the lie angle. See Illustration 7.

OPERATING INSTRUCTIONS - IRONS



Illustration 8 –

Adjusting Loft/Lie Angles

STEP 1 Slide **R.H. Lie/Face Angle Gauge Assembly (#7)** to back of machine. Place bending bar on hosel as low as possible. Adjust bar to snug fit (finger tight) by turning knurled knob at end of bar. See Illustration 8.

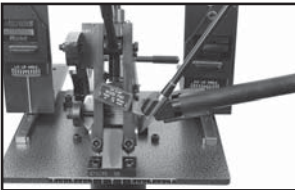


Illustration 9 –

STEP 2 To bend hosel apply light pressure to bending bar in the direction of desired bend until it is seated firmly against hosel. Apply short, quick jolts of bending pressure to bend hosel. Remeasure club and rebend if necessary to desired angles.

STEP 3 To adjust lie angle bend up to make more upright and down to make flatter. The shaft should move in a plane parallel to the front of the machine. See Illustration 9.

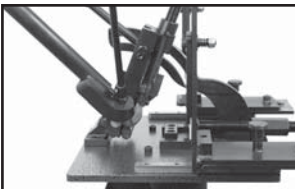


Illustration 10 –

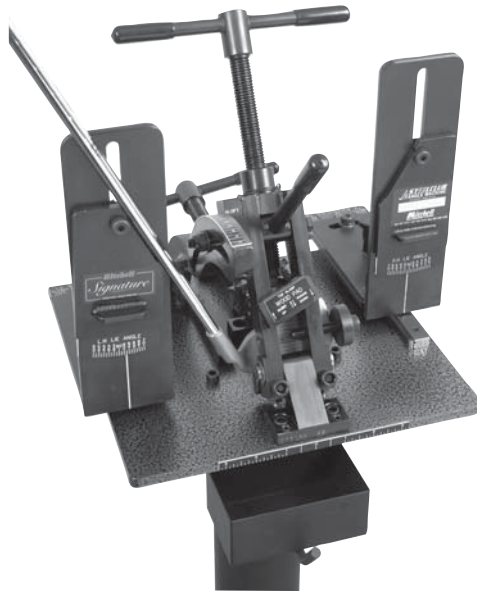
STEP 4 To adjust the loft angle preset the **Face Fixture (#3)** in the **Loft Gauge Swing Arm (#6)** at the desired loft. Bend back (up) to deloft the club and bend forward (down) to add loft to the club. When the shaft rests flush against the **Vertical Plate (#20)**, the club is then set at the desired loft. The shaft should move in a plane parallel to the side of the machine. See Illustration 10.

OPERATING INSTRUCTIONS - IRONS

Convert To Left Hand

STEP 1 Remove the **Toe Stop** (#17) from the left hand side of the **Face Fixture** (#3) and screw it into the hole on the right hand side.

STEP 2 To measure and bend, repeat the same steps per instructions on pages 3,4 and 5. Read the lie for left hand on the **L.H. Lie Angle Gauge** (#8). Read the loft on the **Loft Gauge Swing Arm** (#6).





PATENTED

GUIDE: IRONS LOFT/LIE/LENGTH SPECIFICATIONS

CLUB	OLD STANDARD			MODERN STANDARD			NEW MODERN STANDARD		
	LOFT	LIE	LENGTH	LOFT	LIE	LENGTH	LOFT	LIE	LENGTH
1 IRON	17	56	39	16	56	39.5	15	58.5	40
2 IRON	20	57	38.5	18	57	39	17	59	39.5
3 IRON	23	58	38	21	58	38.5	20	60	39
4 IRON	26	59	37.5	24	59	38	23	60.5	38.5
5 IRON	30	60	37	28	60	37.5	26	61	38
6 IRON	34	61	36.5	32	61	37	30	61.5	37.5
7 IRON	38	62	36	36	62	36.5	34	62	37
8 IRON	42	63	35.5	40	63	36	38	62.5	36.5
9 IRON	46	64	35	44	64	35.5	42	63	36
P.W.	50	64	35	48	64	35.5	46	63.5	35.5
S.W.	56	64	35	56	64	35.5	56	64	35

This is only a guide and does not represent a "standard" for all brands of golf clubs. When clubs are "custom fitted", the specifications can vary.

OPERATING INSTRUCTIONS-METAL WOODS

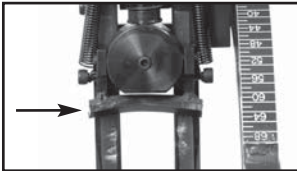


Illustration 11 –

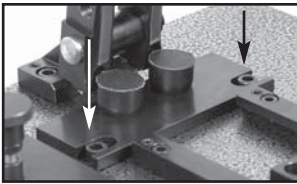


Illustration 12 –

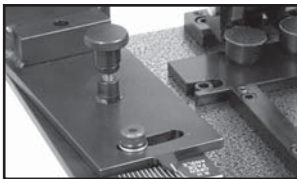


Illustration 13 –

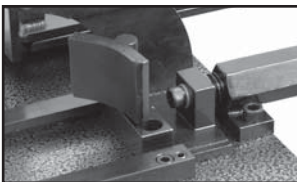


Illustration 14 –

Convert To Metal Woods

STEP 1 Remove the two **Iron Sole Clamps** (#13) by removing the two **Allen Nuts** (#14). Slide both **Iron Sole Clamps** (#13) out the backside of the **Face Fixture** (#3). Replace the **Allen Nuts** (#14) on the bolts to prevent loss. **NOTE: When replacing Iron Sole Clamps (#13), they MUST be positioned horizontally.**

STEP 2 Convert the **Top Clamp** (#2) to use on metal woods by flipping the **Top Clamp Wood Pad** (#11) down. See Illustration 11. **NOTE: Remember to flip the Top Clamp Wood Pad (#11) up when clamping irons.**

STEP 3 Set the **Face Fixture** (#3) at about 10 degrees in the **Loft Gauge Swing Arm** (#6). Position the **Wood Sole Fixture** (#15) on the base of the machine directly behind the **Face Fixture** (#3). The two **Allen Bolt Heads** on the machine base fit directly into the two slots in the plate of the **Wood Sole Fixture** (#15). See Illustration 12.

There are two (2) different size rotatable Wood Sole Clamps. {See Wood Sole Fixture with Wood Sole Clamps (#15), pg. 2.} Insert the taller clamps into the countersunk holes on Wood Sole Fixture Plate for Small Wood Heads, Fairway Woods & Stainless Steel Drivers. Use the shorter wood Sole Clamps for Large Titanium Drivers. *Both sizes are magnetized & fit into the countersunk holes.* **NOTE: The Iron Sole Clamps (#13) must be removed first.**

STEP 4 Loosen the **Locking Pin** (#12) for the **R.H. Wood Face Angle Gauge** (#16) on the **Lie/Face Angle Gauge Assembly** (#7). It is the knob in the center. See Illustration 13. **NOTE: By loosening this locking pin, you are now able to move the face angle pointer left and right. Remember to lock it back at "0" when measuring irons.**

STEP 5 Remove the **Toe Stop** (#17) and store in box on stand.

STEP 6 Place the **Back Wood Clamp** (#9) in the left hand hole for a right hand club (or the right hand hole for left hand club) on the **Back Worm Screw** (#10) slidable clamp fixture. See Illustration 14. **NOTE: The rubber pad material faces forward.**

OPERATING INSTRUCTIONS-METAL WOODS

Club Head Registration & Clamping



Illustration 15 –

STEP 1 Pull down to loosen the **Locking Arm** (#5), and set the **Face Fixture** (#3) at the loft of the wood on the **Loft Gauge Swing Arm** (#6) and lock in position by pushing up **Locking Arm** (#5). **NOTE:** Set the loft to coincide with the loft number on the metal wood. Remember to reset this for every wood placed in the machine.

STEP 2 Example: 8.5 degree driver, set loft at 8.5 degrees; #3 wood at 16 degrees, set loft on 16 degrees.

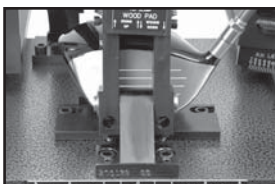


Illustration 16 –

STEP 3 Use the progressive scale on front of machine and measure the center score line on face of club. Mark the two centering lines (blank lines) onto the club's face with a pen. See Illustration 15.

STEP 4 Loosen both **Worm Screws** (#1 and #10). Position club head on the **Wood Sole Fixture** (#15) with face flush against the **Face Fixture** (#3). Center of club's vertical face roll should be contacting face fixture bars with equal amount of exposed space at top and bottom. If necessary, reset club head until you have set the face plane in a square attitude.



Illustration 17 –

STEP 5 Adjust club head so the score lines are parallel to the leading edge of the **Round Pivot Bracket** (#4). With the score lines parallel, slide the club head and **Wood Sole Fixture** (#15) together (left or right) until the centering marks on the club face are on the inside edge of the two vertical bars of the **Face Fixture** (#3). See Illustration 16.

NOTE: The **Back Worm Screw** (#10) needs to be loose enough so you can adjust score lines. **The Toe Stop** (#17) is not used on metal woods.

Tighten the **Back Worm Screw** (#10) until the **Back Wood Clamp** (#9) is lightly holding the club head. Next, tighten the **Top Worm Screw** (#1) to lightly hold club with **Top Clamp Wood Pad** (#11). Then alternate tightening both back and top worm screws until club is clamped tight. See Illustration 17.

NOTE: After tightening, check to make sure club head is centered and score lines are horizontal.

OPERATING INSTRUCTIONS-METAL WOODS

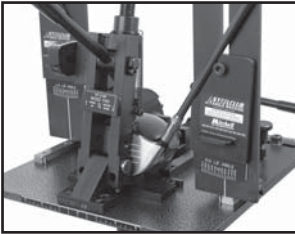


Illustration 18 -



Illustration 19 -

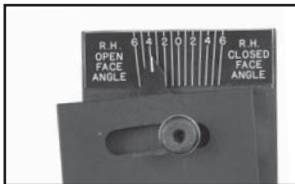


Illustration 20 -

Measuring Face Angle & Lie Angle

STEP 1 To measure lie angle and face angle, slide the **R.H. Lie/Face Angle Gauge Assembly (#7)** forward and rotate it until shaft is flush against the **Vertical Plate (#20)**. See Illustration 18.

STEP 2 To measure lie angle, slide the **R.H. Lie Angle Gauge (#8)** up against the shaft to read the lie angle. See Illustration 19.

STEP 3 To measure face angle read the open or closed degrees on the **R.H. Wood Face Angle Gauge (#16)** at back of assembly. See Illustration 20.

NOTE: Remember to loosen the **Locking Pin (#12)** for the **R.H. Wood Face Angle Gauge (#16)**.

OPERATING INSTRUCTIONS-METAL WOODS

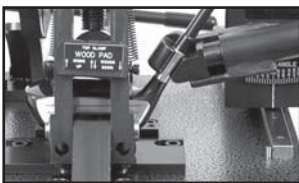


Illustration 21 -

Adjusting Face Angle & Lie Angle

STEP 1

Slide **R.H. Lie/Face Angle Gauge Assembly (#7)** to back of machine. Place bending bar on hosel as high as possible. Adjust bar to snug fit (finger tight) by turning knurled knob at end of bar. See Illustration 21.

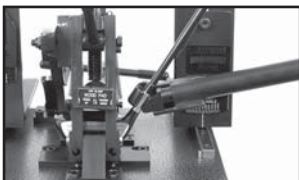


Illustration 22 -

STEP 2

To bend hosel apply light pressure to bending bar in the direction of desired bend until it is seated firmly against hosel. Apply short, quick jolts of bending pressure to bend hosel. Re-measure club and re-bend if necessary to desired angles.

STEP 3

To adjust lie angle bend up to make more upright and down to make flatter. The shaft should move in a plane parallel to the front of the machine. See Illustration 22.

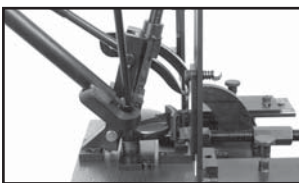


Illustration 23 -

STEP 4

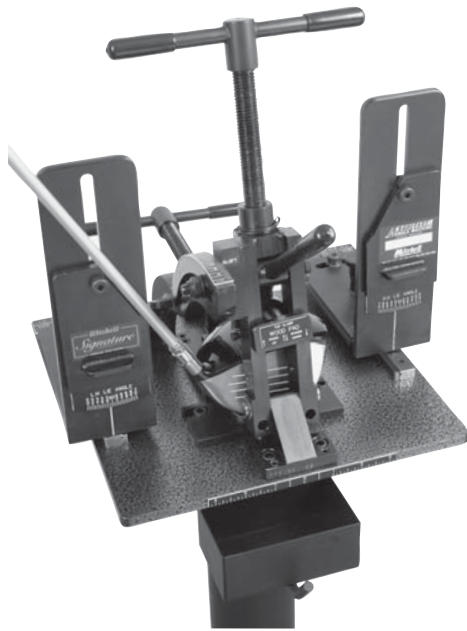
To adjust the face angle bend up (back) to open the club face and bend down (forward) to close to the club face. The shaft should move in a plane parallel to the side of the machine. See Illustration 23.

OPERATING INSTRUCTIONS-METAL WOODS

Convert To Left Hand

STEP 1 Remove the **Toe Stop** (#17) from the **Face Fixture** (#3) and store in box on stand.

STEP 2 To measure and bend, repeat the same steps per instructions on pages 9, 10 and 11. Read the face angle for left hand on the **L.H. Wood Face Angle Gauge** (#16). Read the lie angle on the **L.H. Lie Angle Gauge** (#8).



OPERATING INSTRUCTIONS-HYBRIDS

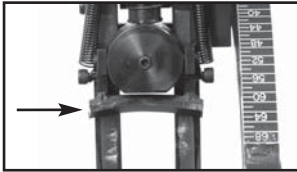


Illustration 24 –

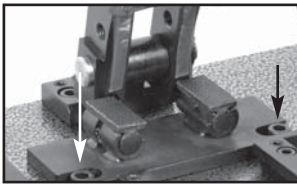


Illustration 25 –

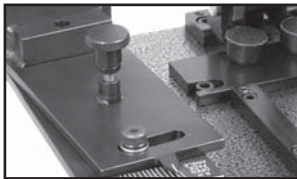


Illustration 26 –

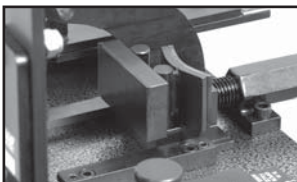


Illustration 27 –

Convert To Hybrids

STEP 1 Remove the two **Iron Sole Clamps** (#13) by removing the two **Allen Nuts** (#14). Slide both **Iron Sole Clamps** (#13) out the backside of the **Face Fixture** (#3). Replace the **Allen Nuts** (#14) on the bolts to prevent loss.

STEP 2 Convert the **Top Clamp** (#2) to use on metal woods by flipping the **Top Clamp Wood Pad** (#11) down. See Illustration 24.

STEP 3 Set the **Face Fixture** (#3) at about 10 degrees in the **Loft Gauge Swing Arm** (#6). Position the **Hybrid Sole Fixture** (#21) on the base of the machine directly behind the **Face Fixture** (#3). The two **Allen Bolt Heads** on the machine base fit directly into the two slots in the plate of the **Hybrid Sole Fixture** (#21). See Illustration 25.

STEP 4 Loosen the **Locking Pin** (#12) for the **Wood Face Angle Gauge** (#16) on the **R.H. Lie/Face Angle Gauge Assembly** (#7). It is the knob in the center. See Illustration 26.

STEP 5 Remove the **Toe Stop** (#17) and replace with **Hybrid Toe Stop** (#22).

STEP 6 Place the **Back Wood Clamp** (#9) in right hand hole with rubber pad facing to back of machine. Place the **Back Hybrid Clamp** (#23) in left hand hole so the back rests against the post of the **Back Wood Clamp** (#9). See Illustration 27.



Hybrid Sole Fixture (#21)



Hybrid Toe Stop (#22)



Back Hybrid Clamp (#23)

OPERATING INSTRUCTIONS-HYBRIDS

Club Head Registration & Clamping

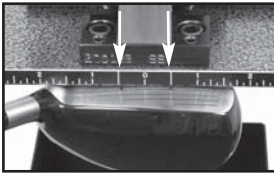


Illustration 28 –

STEP 1 Pull down to loosen the **Locking Arm** (#5), and set the **Face Fixture** (#3) at the loft of the hybrid on the **Loft Gauge Swing Arm** (#6) and lock in position by pushing up **Locking Arm** (#5). **NOTE:** Set the loft to coincide with the loft number on the hybrid. Remember to reset this for every hybrid placed in the machine.

STEP 2 Example: 21 degree hybrid, set loft on 21 degrees.

STEP 3 Use the progressive scale on front of machine and measure the center score line on face of club. Mark the two centering lines (blank lines) onto the club's face with a pen. See Illustration 28.

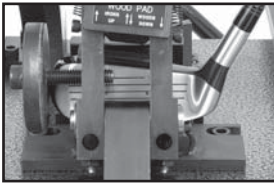


Illustration 29 –

STEP 4 Loosen both **Worm Screws** (#1 and #10). Position club head on the **Hybrid Sole Fixture** (#21) with face flush against the **Face Fixture** (#3). Center of club's vertical face roll should be contacting face fixture bars with equal amount of exposed space at top and bottom. If necessary, reset club head until you have set the face plane in a square attitude.

STEP 5 Adjust club head so the score lines are parallel to the leading edge of the **Round Pivot Bracket** (#4). With the score lines parallel, slide the club head and **Hybrid Sole Fixture** (#21) together (left or right) until the centering marks on the club face are on the inside edge of the two vertical bars of the **Face Fixture** (#3). See Illustration 29. **NOTE:** The **Back Worm Screw** (#10) needs to be loose enough so you can adjust score lines.



Illustration 30 –

Tighten the **Back Worm Screw** (#10) until the **Back Wood Clamp** (#9) is lightly holding the club head. Next, tighten the **Top Worm Screw** (#1) to lightly hold club with **Top Clamp Wood Pad** (#11). Then alternate tightening both back and top worm screws until club is clamped tight. See Illustration 30. **NOTE:** After tightening, check to make sure club head is centered and score lines are horizontal.

OPERATING INSTRUCTIONS-HYBRIDS

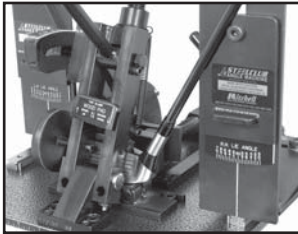


Illustration 31-

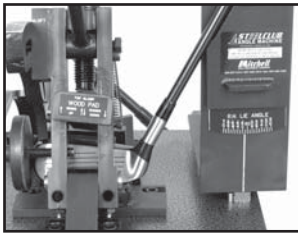


Illustration 32 -

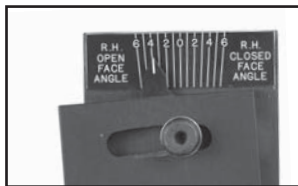


Illustration 33 -

Measuring Face Angle & Lie Angle

STEP 1 To measure lie angle and face angle, slide the **R.H. Lie/Face Angle Gauge Assembly (#7)** forward and rotate it until shaft is flush against the **Vertical Plate (#20)**. See Illustration 31.

STEP 2 To measure lie angle, slide the **R.H. Lie Angle Gauge (#8)** up against the shaft to read the lie angle. See Illustration 32.

STEP 3 To measure face angle read the open or closed degrees on the **R.H. Wood Face Angle Gauge (#16)** at back of assembly. See Illustration 33.

NOTE: Remember to loosen the **Locking Pin (#12)** for the **R.H. Wood Face Angle Gauge (#16)**.

OPERATING INSTRUCTIONS-HYBRIDS



Illustration 34 -

Adjusting Face Angle & Lie Angle

STEP 1 Slide **R.H. Lie/Face Angle Gauge Assembly (#7)** to back of machine. Place bending bar on hosel as high as possible. Adjust bar to snug fit (finger tight) by turning knurled knob at end of bar. See Illustration 34.

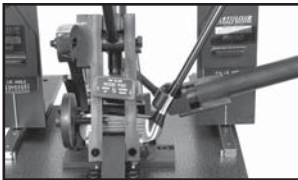


Illustration 35 -

STEP 2 To bend hosel apply light pressure to bending bar in the direction of desired bend until it is seated firmly against hosel. Apply short, quick jolts of bending pressure to bend hosel. Re-measure club and re-bend if necessary to desired angles.

STEP 3 To adjust lie angle bend up to make more upright and down to make flatter. The shaft should move in a plane parallel to the front of the machine. See Illustration 35.

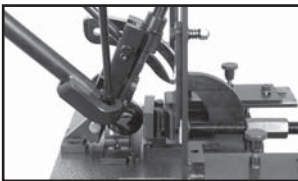


Illustration 36 -

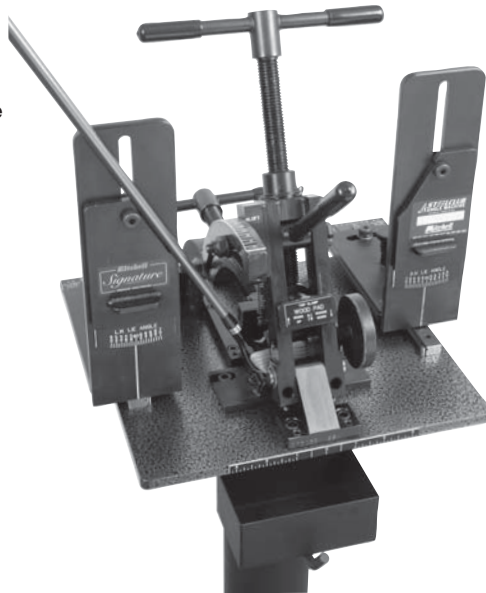
STEP 4 To adjust the face angle bend up (back) to open the club face and bend down (forward) to close to the club face. The shaft should move in a plane parallel to the side of the machine. See Illustration 36.

OPERATING INSTRUCTIONS-HYBRIDS

Convert To Left Hand

STEP 1 Remove **Hybrid Toe Stop** (#22) from left hand hole on the **Face Fixture** (#3) and insert in right hand hole.

STEP 2 To measure and bend, repeat the same steps per instructions on pages 14, 15 and 16. Read the face angle for left hand on the **L.H. Wood Face Angle Gauge** (#16). Read the lie angle on the **L.H. Lie Angle Gauge** (#8).



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